

IMPEDIMENTS TO COLLABORATION FOR ACHIEVING ENVIRONMENTAL SUSTAINABILITY THROUGH ECOSYSTEM RESTORATION

Presentation

**Planning Community of Practice
Conference**

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Institute for Water
Resources**

ISSUES:

- INCREASING DEMANDS ON SCARCE RESOURCES
 - INCREASED REGULATION—ESPECIALLY ENVIRONMENTAL
 - GROWING NUMBER OF CONFLICTING & FRAGMENTING AUTHORITIES
 - GROWING NUMBER OF STAKEHOLDERS/COLLABORATORS
 - COMPLEX EVOLUTION OF ENVIRONMENTAL POLICY
 - ENVIRONMENTAL SUSTAINABILITY OBJECTIVE IS UNCLEAR
 - HOW RESTORATION RELATES TO SUSTAINABILITY IS UNCLEAR
 - HOW PROGRAM PRIORITIES ARE SET IS EVOLVING
 - PARTNERS/COLLABORATORS OFTEN HAVE DIFFERENT PRIORITIES THAT ARE ACCENTUATED BY UNCLEAR OBJECTIVES
- HOW CAN SUCCESS BE MEASURED AGAINST VAGUELY STATED SUSTAINABILITY AND RESTORATION OBJECTIVES ?**

PRESENTATION OBJECTIVES

- SUSTAINABILITY CONCEPT EVOLUTION
 - **CORPS POSITION/CONCEPTS**
 - **COLLABORATOR POSITIONS/CONCEPTS**
- DIFFERENCES, COMMONALITY & TRENDS

**RESOURCE
SUSTAINED YIELD
CONCEPT 1905**

SUSTAINABILITY CONCEPT EVOLUTION

**THE NEPA PRODUCTIVE
HARMONY CONCEPT**

1970

**U. N. SUSTAINABLE
DEVELOPMENT
CONCEPT 1987**

**SECTION
1135
1986**

**U. S. FOREST SERVICE
ECOSYSTEM SUSTAINABILITY
CONCEPT 1990**

**ECOSYSTEM
RESTORATION**

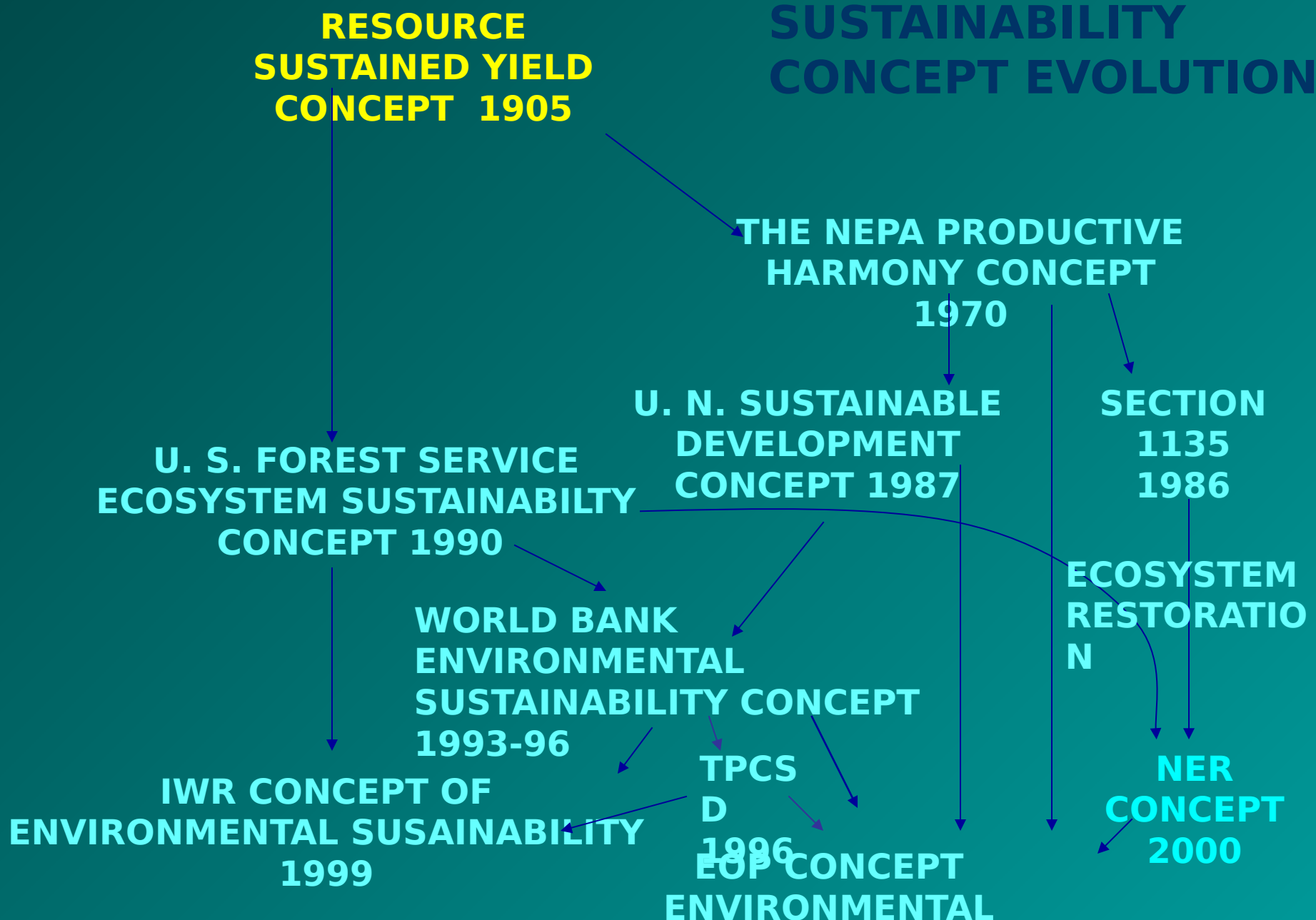
**WORLD BANK
ENVIRONMENTAL
SUSTAINABILITY CONCEPT
1993-96**

**IWR CONCEPT OF
ENVIRONMENTAL SUSTAINABILITY
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**TPCS
D
1996**

**EOP CONCEPT
ENVIRONMENTAL**

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SUSTAINED YEILD CONCEPT

- **RENEWABLE RESOURCES CONCEPT**
- **MOTIVATED BY THREAT OF LOST MGT OPTIONS**
- **CONSERVATION PHILOSOPHY**
 - **GREATEST GOOD FOR GREATEST NUMBER IN LONG RUN**
- **COMMODITY RESOURCES ORIENTED**
 - **TIMBER**
 - **LIVESTOCK**
 - **FISHERIES**
 - **WILDLIFE**
 - **WATER**
- **MAXIMUM SUSTAINED YEILD**
 - **CONSIDERED SUPPORT ECOSYSTEM FROM THIS PERSPECTIVE**
 - **DID NOT CONDONE LOSS OF RESOURCE OPTIONS**

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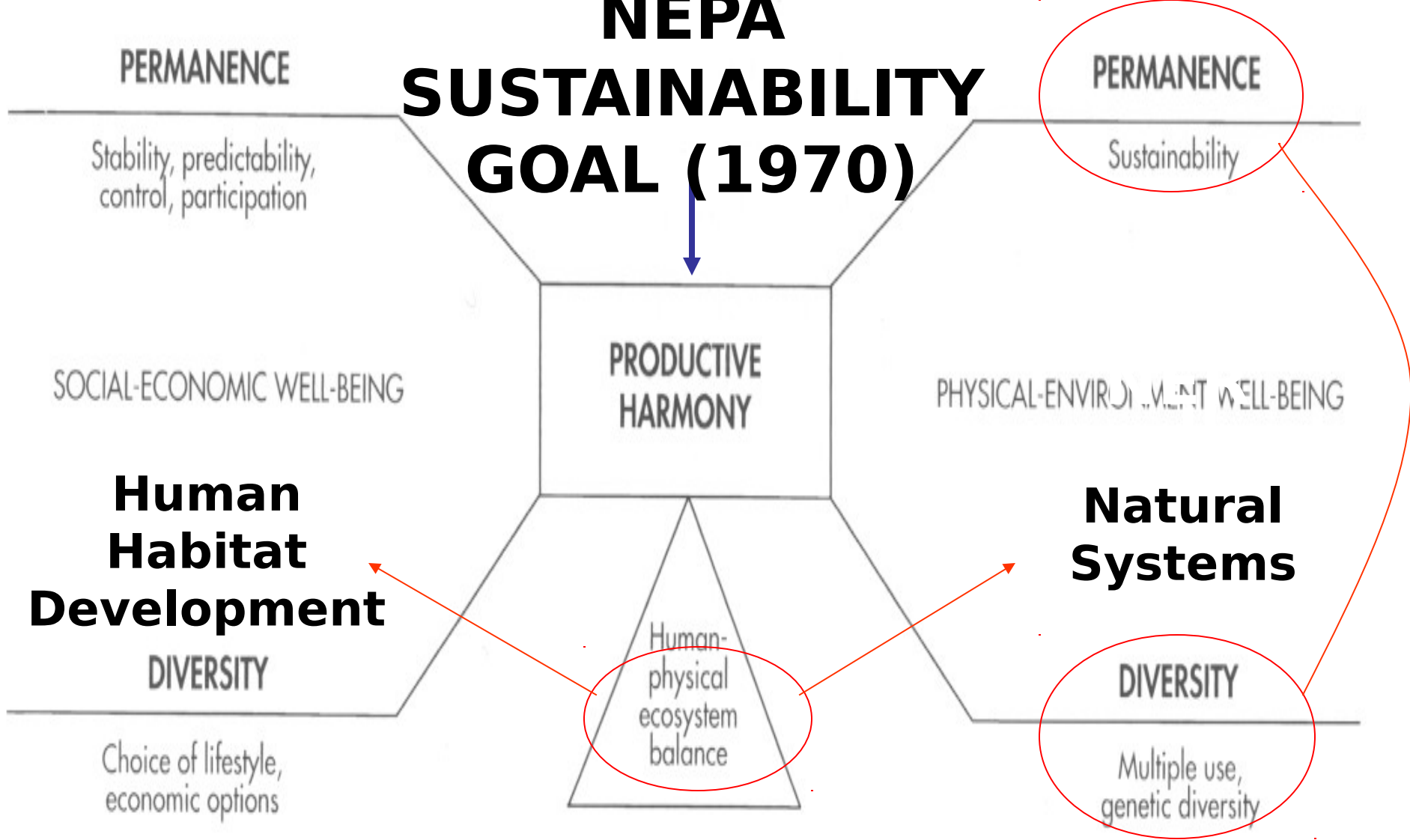
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NEPA

SUSTAINABILITY GOAL (1970)



**NATIONAL ENVIRONMENTAL POLICY
ACT**

AVOID IRREPLACEABLE ENVIRONMENTAL LOSS

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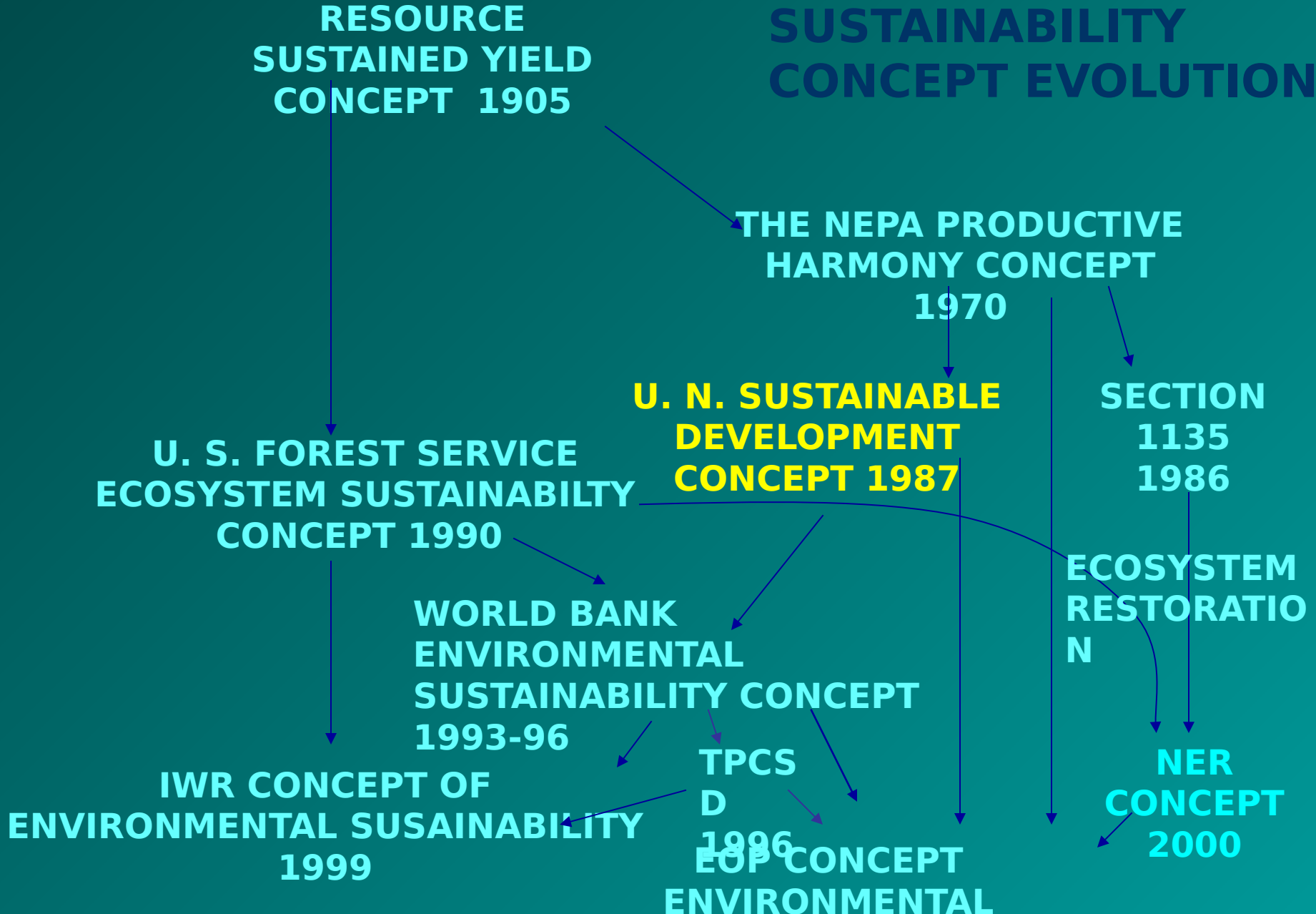
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WORLD COMMISSION ON DEVELOPMENT & THE

ENVIRONMENT

- **“OUR COMMON FUTURE” (BRUNDTLAND REPT)**
- **USA REPRESENTED BY WILLIAM RUCKELSHAUS**
- **SUSTAINABLE DEVELOPMENT—**
 - **“MEETS THE NEEDS OF THE PRESENT WITHOUT COMPROMISING THE ABILITY OF FUTURE GENERATIONS TO MEET THEIR OWN NEEDS”**
 - **REQUIRES ECONOMIC GROWTH WHERE ESSENTIAL NEEDS NOT MET**
 - **ENSURES EQUITABLE OPPORTUNITIES FOR ALL**
 - **DOES “NOT ENDANGER THE NATURAL SYSTEMS THAT SUPPORT LIFE”**
 - **“THE LOSS OF...SPECIES CAN ...LIMIT THE OPTIONS OF FUTURE GENERATIONS”**
 - **ADVERSE IMPACTS “ARE MINIMIZED TO SUSTAIN THE ECOSYSTEM’S OVERALL INTEGRITY”**

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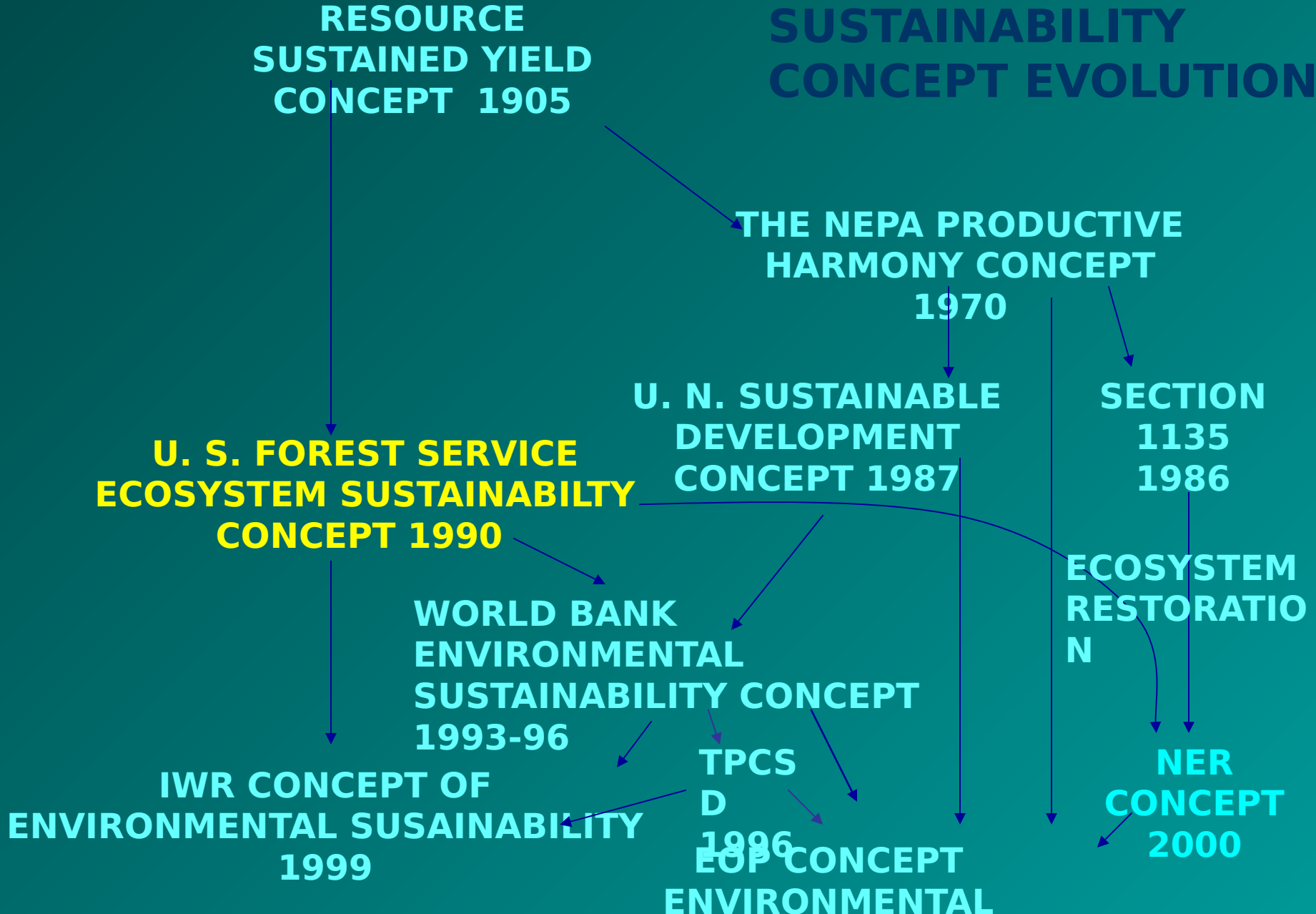
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ECOLOGICAL SUSTAINABILITY

- **BROADENED MANDATES BROADENED PERSPECTIVE**
- **A HOLISTIC ECOSYSTEM APPROACH EVOLVED**
- **ECOSYSTEM MANAGEMENT FOR:**
 - **ECOSYSTEM INTEGRITY & SUSTAINABILITY**
 - **CONSISTENT FLOW OF GOODS AND SERVICES**
 - **SOCIAL SUSTAINABILITY**
 - **ECONOMIC SUSTAINABILITY**
- **LED TO ECOSYSTEM APPROACH MOU IN 1995**
- **17 FEDERAL AGENCIES SIGNED INCLUDING USACE**
- **COLLABORATION IS IMPORTANT ASPECT**

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WORLD BANK CONCEPTS

ECONOMIC OBJECTIVES

- GROWTH
- EQUITY
- EFFICIENCY



**Economic
Sustainability**



**Environmental
Sustainability**



Natural Capital

**Human and human-made capital
SUSTAINABLE DEVELOPMENT**



**Social
Sustainability**



**Social / Moral
Capital**

SOCIAL OBJECTIVES

- EMPOWERMENT
- SOCIAL MOBILITY
- SOCIAL COHESION

ECOLOGICAL OBJECTIVES

- ECOSYSTEM INTEGRITY
- BIODIVERSITY
- CARRYING CAPACITY

BASIC CONDITIONS FOR ENVIRONMENTAL SUSTAINABILITY

- **OUTPUT RULE: NO UNACCEPTABLE
DEGRADATION OF IMPORTANT SERVICES**
- **INPUT RULES:**
 - **CONSUMPTIVE USE OF RENEWABLE
RESOURCES WITHIN REGENERATIVE CAPACITY
(SUSTAINED YIELD)**
 - **DEPLETION RATES OF NONRENEWABLE
RESOURCES EQUALED BY REPLACEMENT WITH
RENEWABLE SUBSTITUTES**
- **RESULT—NATURAL CAPITAL MAINTAINED**

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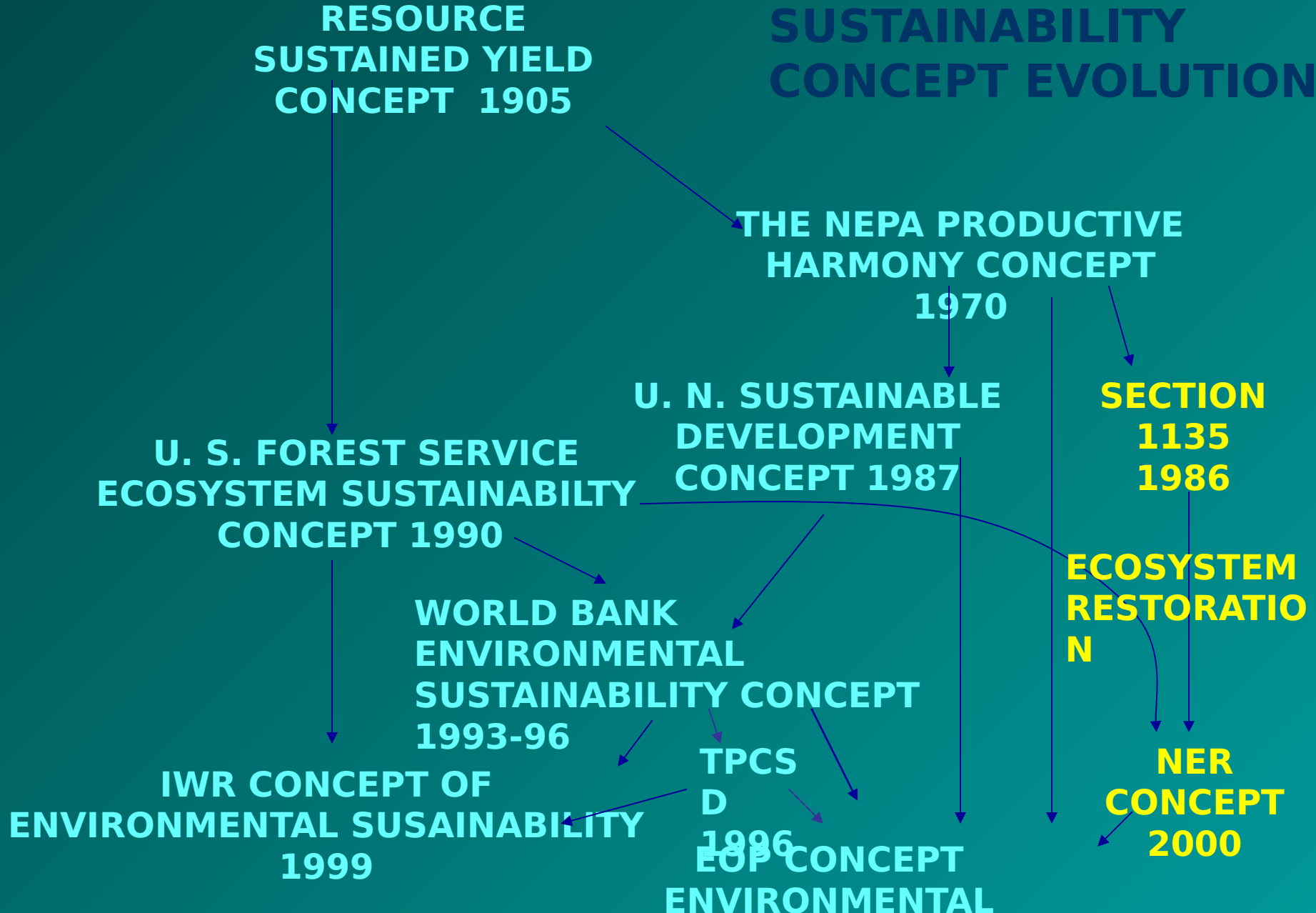
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NATIONAL ECOSYSTEM RESTORATION (NER):

- **A NATIONAL PLANNING OBJECTIVE LIKE NED**
- **RESTORATION PROJECT OUTPUTS CONTRIBUTE TO NER**
- **CONTRIBUTIONS ARE LIMITED TO ECOLOGICAL RESOURCES**
 - **ARE NATURAL ECOSYSTEM STRUCTURE, FUNCTIONS & DYNAMIC PROCESS**
 - **ARE FUNCTIONS OF HABITAT IMPROVEMENT**
 - **ARE NOT TO BE NED OR MEASURED IN DOLLARS**
 - **INDICATORS OF SUCCESS INCLUDE**
 - **GREATER DIVERSITY**
 - **LESS RARE SPECIES**
 - **GREATER CONNECTIVITY**
- **BEST ADMINISTERED IN JOINT PURSUIT OF NED (MULTIPURPOSE PROJECT)**
- **NO EXPLICIT MENTION OF--**
 - **ECOSYSTEM INTEGRITY**
 - **BIODIVERSITY**
 - **CARRYING CAPACITY**
 - **NATURAL CAPITAL**

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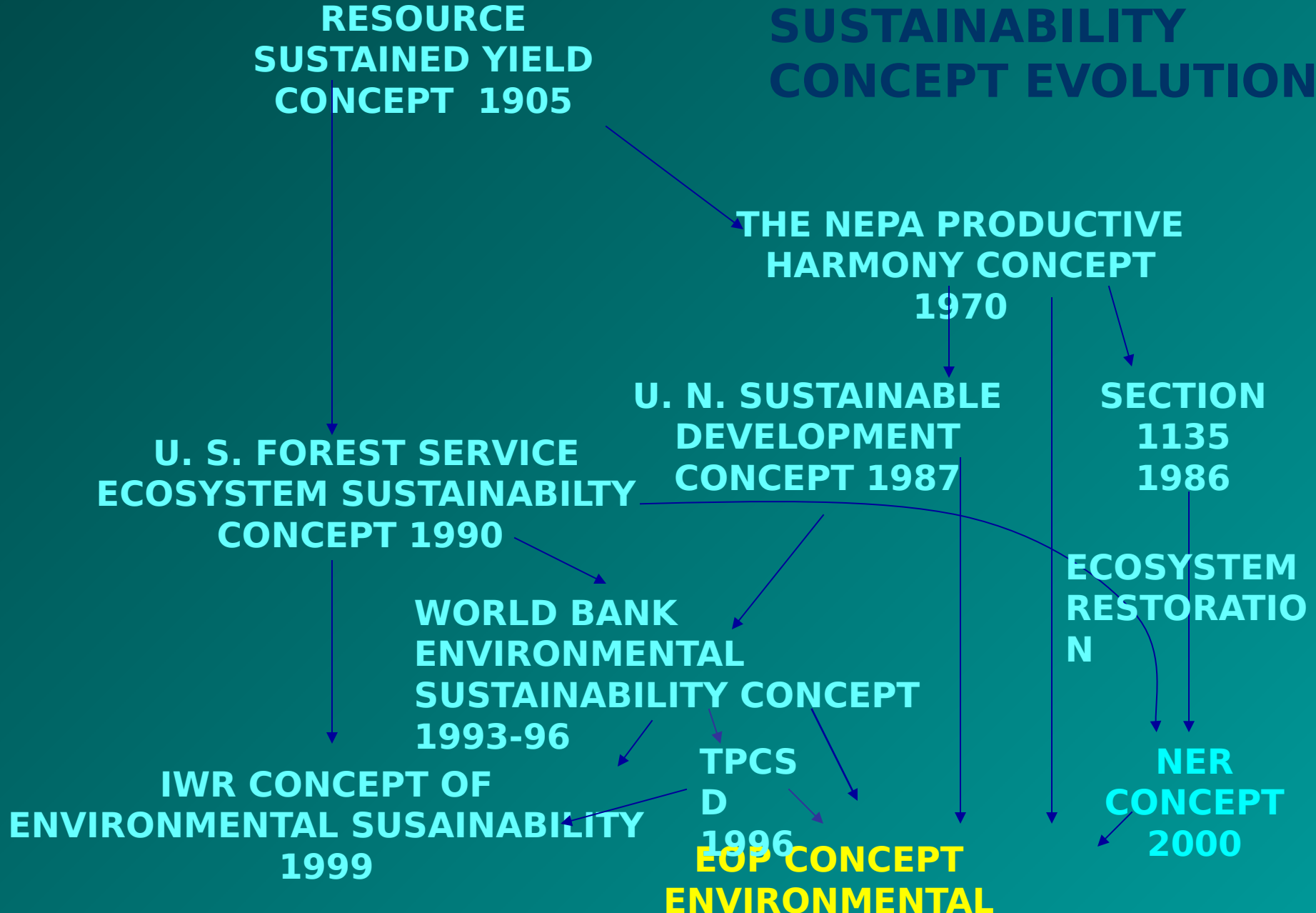
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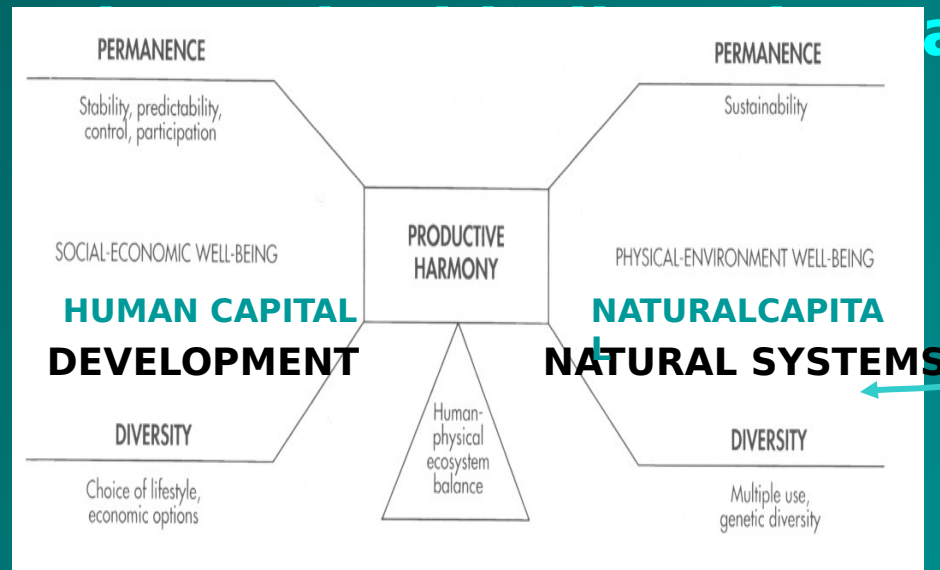
ENVIRONMENTAL OPERATING PRINCIPLES

GOAL RELATED

1. Strive to achieve Environmental Sustainability

3. Seek balance and synergy among human development activities and natural systems (PRODUCTIVE HARMONY?)

capacity?



carrying

COLLABORATOR

POSITIONS:

GOVERNMENT

- **USACE:** Balance development and natural systems
- **FS:** Sustain forest ecosystem integrity and dependent social and economic well being
- **EPA:** Protect environment to sustain human health, economic activity, and nature.
- **FWS:** Sustain Fish, wildlife & plant populations
- **NMFS:** Sustain the use of (fishery) resources

NON-GOVERNMENT

- **TNC:** Preserve biological diversity
- **Amer Riv:** Restore and protect fish and wildlife
- **NFWF:** Sustain fish, wildlife and plants
- **AFS:** Sustain fishery resources

PUBLIC NATURAL RESOURCE MANAGEMENT POLICY TRENDS

**UNLIMITED
NATURAL
RESOURCES**

**LAIZEE
FAIRE
POLICY**

**MAXIMIZE SUSTAINED
YIELD OF SPECIFIC
RESOURCES**

**CONSERVATION
POLICY—MINIMUM
COLLABORATION**

**REGULATE DAMAGE TO
NATURAL ENVIRONMENT &
ENDANGERED RESOURCES**

**ENVIROMENTAL
PROTECTION POLICY—
“COLLABORATION” BY
LAW SUIT**

**TAKE AN ECOSYSTEM APPROACH TO RESOURCE
MANAGEMENT WITH ECOSYSTEM/
ENVIRONMENTAL INTEGRITY & SUSTAINABILITY
THE DESIRED GOAL.**

**EVOLVING INTEGRATED
RESOURCE MGT POLICY
SEARCHING FOR
COLLABORATION
AROUND COMMON
GOALS**

FINAL OBSERVATIONS:

GENERAL

- **FEDERAL POLICY PROMOTES PROTECTION OF RESOURCE OPTIONS**
- **FUTURE OPTIONS ARE NOT TRADED FOR DEVELOPMENT**
- **ECOSYSTEM APPROACH IS ACCEPTED BY GOV & NGOs**
- **FOCUS OF APPROACH VARIES ACCORDING TO MISSIONS**
- **SUSTAINING ECOSYSTEM INTEGRITY IS BECOMING THE UNIVERSAL ENVIRONMENTAL SUSTAINABILITY OBJECTIVE**
- **BIODIVERSITY IS THE MEASURE OF ECOSYSTEM INTEGRITY**

FINAL OBSERVATIONS:

THE CORPS

- **CORPS POLICY SHOWS A SIMILAR EVOLUTION**
 - **YET TO BE INTEGRATED AROUND SUSTAINABILITY**
 - **OR AN ECOSYSTEM INTEGRITY/DIVERSITY OBJECTIVE**
- **“BALANCING” DEVELOPMENT AND NATURAL SYSTEMS MAY IMPLY TRADEOFFS -BUT OF WHAT?**
- **WHAT IN NATURAL SYSTEMS MUST BE SUSTAINED?**
- **SHOULD INTEGRITY BE THE NER OBJECTIVE?**
- **SHOULD IT BE MEASURED BY THE SECURITY OF THE NATION’S BIODIVERSITY?**